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surrounding sea, and its incidental effect upon the marine Fauna of that region, and the formation of a solid rock from the *débris* of shells and corals. Dr. Weinland also spoke of the vegetation of the island, and of the manners and customs of the inhabitants.

## Four hundred and forty-fourth meeting.

November 11, 1857. — STATED MEETING.

The PRESIDENT in the chair.

The Corresponding Secretary read a letter from the Société des Sciences des Indes Neerlandaises, dated Batavia, April 18, 1857, desiring to know whether all of its publications which had been transmitted to the Academy had been received.

The following gentlemen were elected Fellows, viz.:-

Ezekiel Brown Elliott, in Class I. Section 1.

Frank H. Storer, in Class I. Section 3.

William T. Andrews, in Class III. Section 4.

Charles W. Eliot, in Class I. Section 3.

St. Julien Ravenel, M. D., of Charleston, South Carolina, and Professor Edward Robinson, LL. D., of New York, nominated by the Council, were elected Associate Fellows, the former in Class II. Section 3, the latter in Class III. Section 2.

Professor Horsford exhibited specimens of parchment paper, prepared from paper of a very loose texture, by dipping it into a mixture of two parts of sulphuric acid and one of water, and then rapidly washing it in cold water. The action of the acid probably converts the surface of the fibres into a gum, which, on hardening, cements the whole, and gives great strength to the paper.

Professor Horsford also exhibited specimens of Silicium; also of copper obtained from a deposit of Tripoli, about forty miles from Bangor, Maine.

Dr. S. S. Kneeland exhibited two specimens of Meno-

branchus from Portage Lake, near Lake Superior. He had had them in his possession since December, 1856, and from that time until the succeeding June they took no food. At the present time they devour earth-worms greedily. During the past winter, the water in which they were kept had repeatedly been frozen solid. They were pumped up from the lake, and it is only during the winter season that specimens are obtained.

Professor Horsford gave the results of several experiments by his pupils to determine the commercial value of saltpetre by a new method proposed by himself some time since, and then announced to the Academy. The results corresponded very accurately with each other, and with those obtained by more elaborate chemical processes.

## Four hundred and forty-fifth meeting.

December 8, 1857. — Monthly Meeting.

The PRESIDENT in the chair.

The Corresponding Secretary read a letter from Professor Edward Robinson, accepting the Fellowship of the Academy.

Professor Agassiz spoke of the various existing systems of Classification of Fishes, characterizing them all as incomplete and artificial. He analyzed those of anatomists and zoölogists, showing how each failed to conform to the natural system. He referred to his own proposed classification, based on the characters of the scales, and said that he had given that up also as too artificial. The true indications, he thought, were to be found in the embryonic development of this class of animals. Development without an amnios or allantois is common, he said, to naked reptiles and fishes. The scaly reptiles, birds, and mammals are associated by their circulation as a natural group. Among fishes he recognized four groups on a par with the natural divisions of amphibians. He proposed the name of Salachians, to include the sharks and skates, which differ in the structure of their